NIH HTML-Formatted Data Stream Implementation Guide for the Streamlined Non-competing Award Process

Version 1.0

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1 Purpose and Business Overview

1.1 Document Purpose

The purpose of the "NIH HTML-Formatted Data Stream Implementation Guide for the Simplified Non-competing Award Process (SNAP)" is to provide standardized data requirements and content to all users interested in submitting SNAP data to the National Institutes of Health (NIH) via Hypertext Markup Language (HTML) formatted data streams. Use of HTML-formatted data streams requires a data dictionary and a set of syntax rules. Both the grant application data dictionary [1] and syntax rules [2] are maintained and published by the Federal Demonstration Partnership (FDP).

This guide provides a detailed explanation of the grant application data dictionary and syntax rules including the identification of valid code tables. This will aid users in the successful encoding of SNAP data from a proprietary format to an HTML-formatted data stream (called an HTML-stream within the scope of this guide).

Expected users of this implementation guide include NIH grantee organizations and third party vendors that conduct business with NIH on behalf of a grantee organization (i.e., grantee organization agents).

1.2 Version and Release

The FDP data dictionary for the grant application is based on the Accredited Standards Committee (ASC) X12 194 transaction set [3]; specifically, the X12 standards approved for publication in December of 1997, referred to as Version 4 Release 1 (004010).

1.3 Business Usage and Definition

NIH has deployed an HTML-stream pilot system to receive and validate SNAP data. Grantee organizations (or their agents) use the grant application data dictionary and encoding rules to format SNAP data for transmission to this pilot system.

The NIH SNAP/HTML-stream pilot is being deployed as a phased implementation. Phase one, for which this manual is written, accepts all the Public Health Service (PHS) 2590 application kit pages that apply to SNAP:

- the Face Page, except requested costs (Form Page 1),
- the Progress Report Summary (Form Page 5),
- the Checklist (Form Page 6), and
- the Personnel Report, name and annual percent effort only (Form Page 7)

In addition, the NIH SNAP/HTML-stream pilot accepts identification of:

- active *other support* of key personnel,
- significant rebudgeting of funds,
- changes in the level of effort for key personnel,
- unobligated balance, and
- changes in the project abstract.

1.4 References

1. U.S. Department of Health and Human Services, Public Health Service, Application for Continuation of a Grant (PHS 2590)." Rev. 4/98. OMB No. 0925-0001. Form approved through 02/28/2001.
2. "Data Dictionary for the Grant Application." Federal Demonstration Partnership. July 1998.
3. "Syntax Rules for HTML-Formatted Data Streams." Federal Demonstration Partnership. January 1998.
4. "ASC X12 194 Transaction Set. Federal Implementation Conventions." Version 004010. September, 1998.
5. "Table Extensions for the Common Gateway Interface." Buccigrossi, Robert. Turner Consulting Group. February 4, 1997.

1.5 Terms and Abbreviations

194	X12 Grant or Assistance Application
2590	Application for a Continuation of a Grant
AO	Administrative Officer
ASC	Accredited Standards Committee
DOB	Date of Birth
DUNS	Data Universal Numbering System
EDI	Electronic Data Interchange
EIN	Entity Identification Number
FDP	Federal Demonstration Partnership
GUIDe	Government User Identifier
HTML	Hypertext Markup Language
HTTP	Hypertext Transfer Protocol
IACUC	Institutional Animal Care and Use Committee
IC	Implementation Convention
IPF	Institutional Profile
IRB	Institutional Review Board
NIH	National Institutes of Health
OS	Other Support
PHS	Public Health Service

PI	Principal Investigator
PPF	Professional Profile
SNAP	Streamlined Non-competing Award Process
SO	Signing Official
SSN	Social Security Number

1.6 Organization of Document

This document, the "NIH HTML-Formatted Data Stream Implementation Guide for the Simplified Non-competing Award Process", contains four major sections. Section 1 introduces the manual. Section 2 provides a data overview. Section 3 presents the grant application data dictionary as it applies to SNAP (referenced as the SNAP data dictionary), and section 4 specifies the HTML-formatted data stream syntax. This document also contains one appendix. Appendix A provides a sample PHS 2590 application and the corresponding HTML-stream.

1.7 How to Use This Document

This manual is written for the technical user who understands software programming terms and concepts. It can be used as a standalone document, because it reproduces both the relevant SNAP data dictionary and syntax rules (from the FDP), as well as the relevant X12 194 code tables.

1.8 Respondent Burden

This information collection activity is linked to the *U.S. Department of Health and Human Services, Public Health Service, Grant Application (PHS 2590, Rev. 4/98).* The PHS 2590 form is approved through 02/28/2001; OMB No. 0925-0001.

The Public Health Service (PHS) estimates that it will take approximately 15 hours to complete this application for a regular research project grant. Items such as human subjects and vertebrate animals are cleared and accounted for separately, and are not part of the time estimate. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current valid OMB control number. If you have any comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send comments to: NIH, Project Clearance office, 6701 Rockledge Drive, MSC 7730, Bethesda, MD 20893-7730, ATTN: PRA (0925-0001). **Do not send applications to this address.**

2 Data Overview

2.1 Information Flows

The transmission of SNAP data from the grantee community to NIH takes place as shown:

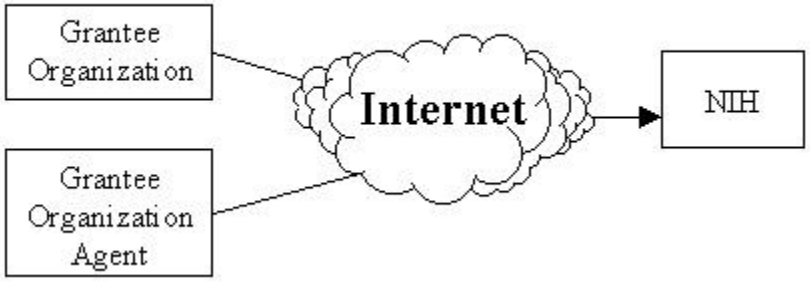

Figure 2.1. SNAP Data Stream Information Flow

2.2 Data Usage by Business Usage

The SNAP data dictionary is categorized into *entities*. An entity is a collection of related data elements. For example, all data elements relevant to a person are specified in the INDIVIDUAL entity. The reader is advised to view these entities as tables in a relational database. This means that grantee organizations must map data from their grant application databases to the corresponding SNAP entities and data elements.

The SNAP data dictionary comprises 20 distinct entities. The hierarchical structure of these entities is depicted in the following diagram. Indentation is used to delineate ranks in the hierarchy.

Some entity names are followed by parenthesized values. These values are the codes permitted for instances of that particular entity. For example, the INDIVIDUAL entity under the PROJECT entity is followed by the codes *9P* and *9K*. An individual of type *9P* is the project's principal investigator. An individual of type *9K* is a key person on the project. In contrast, the INDIVIDUAL entity under the APPLICATION entity is followed by the codes *AD* and *1B*. An individual of type *AO* is the administrative official, while an individual of type *1B* is the official signing for the applicant organization.

The definitions for these alphanumeric codes are defined in section 3, within the relevant entity specifications.

APPLICATION
- *contains* PROJECT
  - *contains* ORGANIZATION (61)
    - *contains* CONTACT_INFORMATION
  - *contains* INDIVIDUAL (9P, 9K)
    - *contains* ORGANIZATION (9P, 9K)
    - *contains* CONTACT_INFORMATION
    - *contains* OTHER_SUPPORT
      - *contains* OTHER_SUPPORT_PERIOD
      - *contains* ORGANIZATION (92)
      - *contains* INDIVIDUAL (9P)
  - *contains* PARAGRAPH (A, E.4, I.6)
  - *contains* YES_NO_CONDITION (5E, 6G)
  - *contains* ANIMAL_SUBJECT
    - *contains* IACUC
  - *contains* HUMAN_SUBJECT
    - *contains* IRB
    - *contains* MATRIX
  - *contains* BUDGET
    - *contains* BUDGET_PERIOD
      - *contains* BUDGET_ITEM
      - *contains* BUDGET_LABOR
        - *contains* INDIVIDUAL (9P, 9K)
  - *contains* REPORT
    - *contains* PARAGRAPH (I, C.1, D.5, D.5.1, I.5, I.7)
- *contains* ORGANIZATION (BY, SE)
  - *contains* CONTACT_INFORMATION
  - *contains* ICR
    - *contains* PARAGRAPH (E.7)
- *contains* INDIVIDUAL (AD, 1B)
  - *contains* CONTACT_INFORMATION
- *contains* YES_NO_CONDITION (H0, H4, H5, H6, H8, H9, I7, I8)

Figure 2-2. Hierarchical Entity Structure

2.3 Data/Transaction Set Model with Usage Matrix

The following matrix identifies the PHS 2590 items supported in the NIH SNAP/HTML-stream pilot. The matrix correlates 2590 items with relevant entities, data elements and data codes. The data codes, which are taken from the X12 194 transaction set, are specified in parentheses.

The entity column in the usage matrix traces the complete hierarchical path beginning with the APPLICATION entity. For example, the ORGANIZATION entity is subordinate to several other entities. To properly identify the organization that is the source of other support for a researcher, the entity column specifies the path:

APPLICATION/PROJECT/INDIVIDUAL/OTHER_SUPPORT/ORGANIZATION.

Page	2590 Item	Item Definition	Entity	Data Element
A	Non-competitive Renewal	Identify as SNAP	Application	Type (6N)
A	Grant Number	Grant number assigned by NIH	Application	Award_Id
A	Total Project Period, From	Estimated start date	Application/Project	Start_Date
A	Total Project Period, Through	Duration of project	Application/Project	End_Date
A	Requested Budget Period, From	Budget period start date	Application/Project/ Budget/ Budget_Period	Start_Date
A	Requested Budget Period, Through	Budget period length	Application/Project/ Budget/ Budget_Period	Length
A.1	Title of Project	Project title	Application	Title
A.2a	Principal Investigator (PI)	Identify as PI Last name First name Middle name Name prefix Name suffix Govrnment user ID	Application/Project Individual	Type (9P) Last_Name First_Name Middle_Name Prefix Suffix GUIDe
A.2a A.2b	Principal Investigator (PI) PI Email Address	PI address PI city PI state PI zip code PI email address	Application/Project Individual/ Contact_Information	Street_Address City State Zip_Code Email_Address
A.2c A.2d	PI Department PI Major Subdivision	Department of PI Major subdivision of PI	Application/Project Individual/ Organization	Department Division
A.3	Organizational Code	N/A	N/A	N/A
A.4	Applicant Organization Name	Identify as applicant org. Submitting organization DUNS Organization IPF code Organization name	Application/ Organization	Type (SE) DUNS Profile_Id Name
A.4	Applicant Organization Address	Organization street address Organization city Organization state Organization zip code	Application/ Organization/ Contact_Information	Street_Address City State Zip_Code
A.5	Entity Identification Number	EIN	Applicant/ Organization	EIN
A.6	Title of AO	Administrative Officer (AO) Title	Application/ Individual	Type (AD) Title
A.6	Address of AO	AO street address AO city AO state AO zip code AO email address	Application/ Individual/ Contact_Information	Street_Address City State Zip_Code Email_Address
A.7	Human Subjects	Exemption number IRB approval date IRB full review Assurance of compliance no.	Application/Project/ Human_Subject/IRB	Exemption_Number Approval_Date Review_Type (Full vs. Expedited) Assurance_Number

Page	2590 Item	Item Definition	Entity	Data Element
A.8	Vertebrate Animals	Animal welfare assurance no. IACUC approval date	Application/Project/ Animal_Subject/ IACUC	Assurance_Number Approval_Date
A.9	Costs Requested for Next Budget Period	Costs requested for next budget period	N/A	N/A
A.10	Inventions and Patents	Identify as inventions/patents Identify as previously reported	Application/Project/ Paragraph	Type (I.6) Text (Reported, Not Reported)
A.11	Performance Site(s)	Identify a performance site Organization name	Application/Project/ Organization	Type (61) Name
A.11	Performance Site(s) Address	Organization city Organization state	Application/Project/ Organization/ Contact_Information	City State
A.12a	Principal Investigator	Telephone number Facsimile number	Application/Project Individual/ Contact_Information	Telephone_Number Fax_Number
A.12b	Name of AO	Identify as AO AO last name AO first name AO middle name AO name prefix AO name suffix AO government user id	Application/ Individual	Type (AD) Last_Name First_Name Middle_Name Prefix Suffix GUIDe
A.12b	AO Telephone and Fax	AO telephone number AO facsimile number	Application/ Individual/ Contact_Information	Telephone_Number Fax_Number
A.12c	Name and Title of SO	Identify as Signing Official Signing official (SO) last name SO first name SO middle name SO name prefix SO name suffix SO government user id SO title	Application/ Individual	Type (1B) Last_Name First_Name Middle_Name Prefix Suffix GUIDe Title
A.12c	SO Telephone and Fax	SO telephone number SO facsimile number SO email address	Application/ Individual/ Contact_Information	Telephone_Number Fax_Number Email_Address
A.13	N/A	N/A	N/A	N/A
A.14	Signature/Date for PI	N/A	N/A	N/A
A.15	Signature/Date for SO	Application date	Application	Submission_Date
E	Report Period – From	Start date for report period	Application/Project/ Report	Start_Date
E	Report Period – Through	Duration of report period	Application/Project/ Report	End_Date
E	Report Text	Progress report text	Application/Project/ Report/Paragraph	Type (I) Text
E	Publications	Publication text Medline accession number	Application/Project/ Report/Paragraph	Type (D.5) Text Type (D.5.1) Text

Page	2590 Item	Item Definition	Entity	Data Element
E	Use of Human Subjects	Identify change in use Yes/No response Describe change	Application/Project/ Yes_No_Condition	Type (5E) Response Description
E	Use of Animals	Identify change in use Yes/No response Describe change	Application/Project/ Yes_No_Condition	Type (6G) Response Description
E	Gender and Minority Inclusion	Matrix start Matrix end Number of subjects Title of study	Application/Project/ Human_Subject/ Matrix	Start_Cell End_Cell Data Title
F	Assurances/Certifications	Human Subjects Vertebrate Animals Debarment and Suspension Drug-Free Workplace Lobbying Delinquent Federal Debt Research Misconduct Discrimination Regulations Financial Conflict of Interest Response to condition Explanatory text	See IRB See IACUC Application/ Yes_No_Condition	N/A N/A Type (I8) Type (H5) Type (H0, H4) Type (I7) Type (H6) Type (H8) Type (H9) Response Description
F	Program Income	Identify as program income. Budget period, anticipated amount, source(s) (all provided in one text field)	Application/Project/ Paragraph	Type (E.4) Text
F	Indirect Costs	Agreement date DHHS Regional Office or PHS Cost Advisory Office	Application/ Organization/ICR	Agree_Date Filing_Location
F	Calculation	Identify as indirect costs Amount of base Rate applied Indirect Costs	Application/Project/ Budget/ Budget_Period/ Budget_Item	Code (09) Quantity Percentage_Rate Cost
F	Check Appropriate Boxes	Salary and wages base Modified total direct cost base Off-site, other special rate, or more than one rate involved Other base	Application/Project/ Budget/ Budget_Period/ Budget_Item	Code (51) Code (47) Code (ZZ) Code (08)
F	Explanation	Identify as indirect cost text Explanation for indirect costs	Application/ Organization/ICR/ Paragraph	Type (E.7) Text
G	Personnel Report – Name	Identify as PI Identify as key person Last name First name Middle name Prefix Suffix Government user ID	Application/Project/ Budget/ Budget_Period/ Budget_Labor/ Individual	Type (9P) Type (9K) Last_Name First_Name Middle_Name Prefix Suffix GUIDe

Page	2590 Item	Item Definition	Entity	Data Element
G	Annual % Effort	Annual percent effort	Application/Project/ Budget/ Budget_Period/ Budget_Labor	Previous_Level_ Effort_Percentage
N/A	Question 1: Active OS Provide all active Other Support (OS) for key personnel on the next budget period	Other support is active Annual direct costs for project OS project number OS major goals OS overlap OS project title	Application/Project/ Individual/ Other_Support	Type (37) Annual_Cost Award_Number Major_Goals Overlap Title
N/A	Active Other Support	Approved OS project start date Approved OS project end date Percent effort for OS project	Application/Project/ Individual/ Other_Support/ Other_Support_Period	Start_Date End_Date Level_Effort_ Percentage
N/A	Active Other Support	OS source	Application/Project/ Individual/ Other_Support/ Organization	Type (92) Name
N/A	Other Support Principal Investigator	PI last name PI first name	Application/Project/ Individual/ Other_Support/ Individual	Last_Name First_Name
N/A	Question 2: Significant rebudgeting of funds	Explanation of significant rebudgeting of funds	Application/Project/ Report/Paragraph	Type (I.7) Text
N/A	Question 3: Change in level of effort of key personnel	Explanation of changes in level of effort of key personnel	Application/Project/ Report/Paragraph	Type (C.1) Text
N/A	Identification of the key person	Identify as key person Last name First name Middle name Prefix Suffix Government user ID Social Security Number Date of birth	Application/Project/ Budget/ Budget_Period/ Budget_Labor/ Individual	Type (9K) Last_Name First_Name Middle_Name Prefix Suffix GUIDe SSN Birth_Date
N/A	Percent level of effort	New level of effort as a percent	Application/Project/ Budget/ Budget_Period/ Budget_Labor	Level_Effort_ Percentage
N/A	Type of Appointment/Months	Number of months per year reflected in an individual's appointment to the applicant organization	Application/Project/ Budget/ Budget_Period/ Budget_Labor	Level_Effort_ Months
N/A	Role on Project	Role on project	Application/Project/ Budget/ Budget_Period/ Budget_Labor	Project_Role

Page	2590 Item	Item Definition	Entity	Data Element
N/A	Question 4: Unobligated Balance	Explanation of estimated unobligated balance	Application/Project/ Report/Paragraph	Type (I.5) Text
N/A	Abstract	Identify updated abstract	Application/Project/ Paragraph	Type (A) Text
N/A	Identification of NIH as agency receiving application	Cite DUNS Number for NIH Use value of *927645168*	Application/ Organization	Type (BY) DUNS

2.4 Applications and Profiles

Grantee organizations and users must register with NIH before being referenced on an application. Once registered, the grantee organization maintains its Organizational Profile (OPF) and each user maintains a Professional Profile (PPF). When submitting SNAP data to NIH via an HTML-stream, there are business rules that govern how information in the application affects the profiles. In general, grant application data elements:

- must match the registered profile values, or
- are stored as part of the application, but do not change the profile, or
- change the profile.

The specific business rules are described below. Note that not all the data elements listed are required to be present on an application.

2.4.1 Organizational Profile

With respect to the applicant organization, no organizational data submitted via the HTML-stream affects the OPF. The following grant application data elements *must* match OPF values registered with NIH. If not, the transaction is rejected.

- Institutional Profile (IPF) code
- DUNS number
- EIN

Note that if the organization name, division or department do not match the OPF values registered with NIH, the values submitted on the application are ignored, and an email message is returned to the grantee identifying the inconsistency.

The following data elements are stored as part of the application, but do not change the OPF.

- address (street address, city, state, etc.)
- assurance and certification data

2.4.2 Professional Profile

NIH uses a Unique Person Algorithm (based on various PPF data elements) to uniquely identify key individuals on a grant application. If the algorithm *fails* (i.e., cannot uniquely identify an individual), the transaction is rejected. Note that failure to recognize even one key person causes the grant application to be rejected. If the algorithm succeeds (i.e., uniquely identifies an individual), PPF data elements are handled as follows.

The following grant application data elements *must* match PPF values registered with NIH. If not, the transaction is rejected.

- Government User Identifier (GUIDe)
- Social Security Number (SSN) – note that an invalid GUIDe or SSN will result in the algorithm failing. They are listed here only for completeness.

The following grant application data elements *should* match PPF values registered with NIH. If not, they are stored as part of the application (they do not change the PPF), but an email message is returned to the grantee identifying the inconsistency(ies).

- name
- date of birth

The following data elements are stored as part of the application, but do not change the user's PPF.

- position title
- address (street address, city, state, etc.)
- contact data (phone, fax, email)

Publications are handled as follows. Each publication specified in the SNAP data stream is stored as part of the application. In addition, each publication is compared to the PI's PPF registered with NIH. If the data stream publication does not match any entry in the PI's PPF, the publication is added to the PI's PPF.

2.5 General Processing Rules

NIH applies some general rules when processing data streams. Presently, the rules are used to ensure comformance to this guide. This means that the rules are specific to NIH, and that data streams will be rejected if non-conforming. Future versions of these processing rules might relax some of the constraints in the interest of supporting grantees who use HTML-streams to submit data to multiple agency systems.

The NIH processing rules for HTML-streams containing SNAP applications can be divided into *Entity Rules* and *Data Element Rules*.

2.5.1 Entity Rules

1. If a data stream contains an entity that is not recognized, the data stream is rejected.
2. If a data stream contains more than one instance of an entity that does not permit duplicates, the data stream is rejected.
3. If an entity violates the entity hierarchy (e.g., if *ICR* appears under *Budget*, instead of *Organization*), the data stream is rejected.
4. If an entity is required and an instance of the entity is not present in the data stream, the data stream is rejected.

The list of all required entities is provided below.

- Application
- Application.Individual (for types AD and 1B)
- Application.Organization (for types BY and SE)
- Application.Project
- Application.Project.Budget.Budget_Period
- Application.Project.Individual (for type 9P)
- Application.Report
- Application.Report.Paragraph (for type I)
- Application.Project.Animal_Subjects.IACUC
  (if Application.Project.Animal_Subjects is present)
- Application.Project.Human_Subjects.IRB
  (if Application.Project.Human_Subjects is present)
- Application.Project.Individual.Other_Support.Other_Support_Period
  (if Application.Project.Individual.Other_Support is present)
- Application.Project.Individual.Other_Support.Organization
  (if Application.Project.Individual.Other_Support is present)

2.5.2 Data Element Rules

1. If an entity contains a data element that is not recognized, the data stream is rejected.
2. If an entity contains more than one instance of a data element that does not permit duplicates, the data stream is rejected.
3. If a data element is required and an instance of the data element is not present in the entity, the data stream is rejected.
4. If a data element violates a length constraint, the data stream is rejected.
5. If a data element contains a code value that is not permitted, the data stream is rejected.

2.6 ASCII Text

When submitting SNAP data to NIH via an HTML-stream, grantee organizations encode the data using the 7-bit American Standard Code for Information Interchange (ASCII) bit pattern. This encoding scheme does not permit the representation of many foreign language characters (e.g., the Ä). This limitation is most apparent when specifying abstracts, project titles and publication titles containing special characters (e.g., mathematical characters). For the SNAP/HTML-stream pilot, NIH recommends providing a brief description of the special character. For example, use *delta* in lieu of δ, or use *small a, umlaut* in lieu of ä.

3 SNAP Data Dictionary Implementation Guidelines

Grantee organizations can use HTML-formatted data streams to submit SNAP data to NIH. Only one application can be submitted via a single data stream.

The following table lists the entities that comprise the SNAP data dictionary. For each entity, attributes such as whether the entity is required and whether duplicate values are permitted are provided. Some entities categorize these attributes by type. For example, the ORGANIZATION entity representing the applicant organization (type SE) is required, and duplicates are not permitted. In contrast, the ORGANIZATION entity representing a performance site (type 61) is not required, and duplicates are permitted.

Note that the "Required" attribute for an entity must be viewed in relationship to the "Required" attribute for its parent entity. For example, OTHER_SUPPORT_PERIOD is required. OTHER_SUPPORT_PERIOD, however, is subordinate to OTHER_SUPPORT, which is not required. This means that the other support period must be provided only if other support is applicable.

Table 3-1. SNAP Entities

Entity Name	Required	Duplicates Allows
APPLICATION	Yes	No
ANIMAL_SUBJECT	No	No
BUDGET	Yes	No
BUDGET_ITEM	No	Yes
BUDGET_LABOR	No	Yes
BUDGET_PERIOD	No	No
CONTACT_INFORMATION	No	No
HUMAN_SUBJECT	No	No
IACUC	Yes	No
ICR	No	No
INDIVIDUAL		
Types: AD, 1B	Yes	No
Type: 9P (PI)	Yes	No
Type: 9P (Other Support PI)	No	No
Type: 9K	No	Yes
IRB	Yes	No
MATRIX	No	No
ORGANIZATION		
Types: BY, SE	Yes	No
Types: 9P, 9K	No	No
Type: 61	No	Yes
Type: 92	Yes	No
OTHER_SUPPORT	No	Yes
OTHER_SUPPORT_PERIOD	Yes	No
PARAGRAPH		
Type: I	Yes	No
Types: D.5, D.5.1	No	Yes
Types: A, C.1, E.4, E.7, I.5, I.6, I.7	No	No
PROJECT	Yes	No
REPORT	Yes	No
YES_NO_CONDITION	No	Yes

3.1 APPLICATION Entity Data Elements

The following table defines the data elements for the APPLICATION entity. If the APPLICATION entity is viewed as a database table, each data element is analogous to a column in the table.

For the application entity (as well as all other entities), the following information is provided:

1. Data Element Name - the name of the data element.
2. Data Type - the type of the data element. The following types are used:
   - AN Alphanumeric
   - DATE Format is CCYYMMDD (e.g., Jan 13, 2001 is 20010113)
   - DOLLAR Monetary Amount; format is nnnnnnnnn (maximum value is 10 digits)
   - ID Identifier (Alphanumeric, but values are predefined)
   - NUM Numeric (Treated as number or string, depending on context)
3. Min Len - the minimum number of characters permitted for the data element.
4. Max Len - the maximum number of characters permitted for the data element.
5. Dupl - a boolean indicating whether the data element can have multiple values.
6. Req - a boolean indicating whether the data element must be present.
7. Code List - a list of permitted values for the data element.

Note that some attributes are bold and italic. These attributes have an NIH value that is different than the X12 194 transaction set value.

Table 3-2. Supported APPLICATION Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Purpose	ID	2	2	NO	YES	"00" Original
Applicant_Id *Use to cite the grant applicant's unique identifier for this application.*	AN	1	30	NO	YES	
Submission_Date	DATE	8	8	NO	YES	
Type	ID	2	2	NO	YES	"6N" Non-competitive Renewal
Title	AN	1	***81***	NO	YES	
Award_Id	AN	1	30	NO	***YES***	

3.2 ANIMAL_SUBJECT Entity Data Elements

The ANIMAL_SUBJECT entity has no relevant data elements for SNAP. It acts as the parent entity for the IACUC entity.

3.3 BUDGET Entity Data Elements

The BUDGET entity has no relevant data elements for SNAP. It acts as the parent entity for the BUDGET_PERIOD entity.

3.4 BUDGET_ITEM Entity Data Elements

Use the BUDGET_ITEM entity to specify indirect costs if there is a change in performance site.

Table 3-3. Supported BUDGET_ITEM Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Code	ID	2	2	NO	YES	"08" Other Base "09" Total Indirect Costs "47" Modified Total Direct Cost Base "51" Salary and Wages Base "ZZ" Off-Site Rate Base
Cost	DOLLAR	1	***10***	NO	NO	
Quantity	NUM	1	15	NO	NO	
Percentage_Rate	NUM	1	15	NO	NO	

3.5 BUDGET_LABOR Entity Data Elements

Use the BUDGET_LABOR entity to specify the role, percent level of effort, and number of months of contractual appointment for a user on a project. Use one instance of this entity for each user on either the current budget period and the proposed budget period. If the user has a GUIDe, specify it here. If not, cite an INDIVIDUAL entity subordinate to this entity to uniquely identify the user.

Table 3-4. Supported BUDGET_LABOR Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
GUIDe	AN	1	30	NO	NO	
Project_Role	AN	1	80	NO	NO	"Principal Investigator" "Research Assistant" "Staff Scientist" "Fellow" "Lab Technician" "Supportee"
Level_Effort_Months	NUM	1	***2***	NO	NO	
Level_Effort_Percentage *Calculate average over Level_Effort_Months*	NUM	1	10	NO	NO	
Previous_Level_Effort_Percentage *Calculate average over budget period.*	NUM	1	10	NO	NO	

3.6 BUDGET_PERIOD Entity Data Elements

Use the BUDGET_PERIOD entity to identify the start date and length (in months) of the requested budget period.

Table 3-5. Supported BUDGET_PERIOD Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Period_Id	AN	1	80	NO	YES	"T" Total Period
Start_Date	DATE	8	8	NO	YES	
Length	NUM	1	20	NO	YES	

3.7 CONTACT_INFORMATION Entity Data Elements

Use the CONTACT_INFORMATION entity to specify contact information for select individuals (i.e., PI, administrative official, and signing official) and for the applicant organization. Also, use this entity to specify the *City* and *State* attributes for a performance site.

Table 3-6. Supported CONTACT_INFORMATION Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Street_Address *A maximum of four street addresses can be specified.*	AN	1	***50***	YES	NO	
City	AN	2	30	NO	NO	
State	ID	2	2	NO	NO	
Zip_Code	ID	3	***9***	NO	NO	
Country	AN	2	3	NO	NO	ISO 3166
County	AN	1	30	NO	NO	
Telephone_Number	AN	1	***25***	NO	NO	
Fax_Number	AN	1	***25***	NO	NO	
Email_Address	AN	1	80	NO	NO	
Mail_Stop	AN	1	20	NO	NO	

3.8 HUMAN_SUBJECT Entity Data Elements

The HUMAN_SUBJECT entity has no relevant data elements for SNAP. It acts as the parent entity for the IRB and MATRIX entities.

3.9 IACUC Entity Data Elements

Use the IACUC entity to specify relevant vertebrate animal information.

Table 3-7. Supported IACUC Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Assurance_Number	AN	1	30	NO	NO	
Approval_Date	DATE	8	8	NO	NO	

3.10 ICR Entity Data Elements

Use the ICR entity to specify indirect cost rate information, specifically the DHHS Regional Office or PHS Agency Cost Advisory Office with which the indirect cost rate was established, and the date on which the agreement was established.

Table 3-8. Supported ICR Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Filing_Location	AN	1	35	NO	NO	See Note 1.
Agree_Date	DATE	8	8	NO	NO	

1. When specifying the DHHS Regional Office at which an indirect cost rate has been negotiated, use the following codes:
   "NE" Northeastern Office, New York, NY
   "MID" Mid-Atlantic Office, Washington, DC
   "CEN" Central States Office, Dallas, TX
   "WES" Western States Office, San Francisco, CA
   If an indirect cost rate has been negotiated at a different agency's cost advisory office, cite the name of the office.

3.11 INDIVIDUAL Entity Data Elements

Use the INDIVIDUAL entity to identify the project PI, key personnel, an other support PI, and the administrative and signing officials for the applicant organization. For the other support PI, only provide the last name and first name.

Table 3-9. Supported INDIVIDUAL Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Type	ID	2	2	NO	YES	"1B" Signing Official "AD" Administrative Officer "9K" Key Person "9P" Principal Investigator
Last_Name	AN	1	***30***	NO	NO	
First_Name	AN	1	25	NO	NO	
Middle_Name	AN	1	25	NO	NO	
Prefix	AN	1	10	NO	NO	
Suffix	AN	1	***5***	NO	NO	
GUIDe	ID	1	30	NO	NO	
SSN	ID	1	30	NO	NO	
Title	AN	1	***40***	***NO***	NO	
Birth_Date	DATE	8	8	NO	NO	

3.12 IRB Entity Data Elements

Use the IRB entity to specify relevant human subject information.

Table 3-10. Supported IRB Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Review_Type	AN	1	45	NO	NO	"Full" "Expedited"
Assurance_Number	AN	1	30	NO	NO	
Approval_Date	DATE	8	8	NO	NO	
Exemption_Number	AN	1	30	NO	NO	

3.13 MATRIX Entity Data Elements

Use the MATRIX entity to specify the Gender and Minority Inclusion table. Construct the matrix as follows:

Rows: 1 (Male), 2 (Female), 3 (Unknown)
Cols: A (Indian), B (Asian), C (Black), D (Hispanic), E (White), F (Other)

Table 3-11. Supported MATRIX Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Start_Cell	AN	1	30	NO	YES	"A1"
End_Cell	AN	1	30	NO	YES	
Data	AN	1	80	YES	YES	
Title	AN	1	***60***	NO	NO	

3.14 ORGANIZATION Entity Data Elements

Use the ORGANIZATION entity to specify information pertaining to the various organizations referenced on the application. Only cite the *Name* attribute for a performance site (type 61) and an other support organization (type 92). Only cite the *DUNS* number when identifying NIH as the Federal agency (type BY). The Division and Department attributes are only to be provided for the organization of the PI (type 9P).

Only provide performance site data if there is a change. If any performance site data has changed, all performance site information must be resubmitted.

Table 3-12. Supported ORGANIZATION Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Type	ID	2	2	NO	YES	"BY" Federal Agency "61" Performance Site "SE" Grant Applicant "92" Other Support "9P" Organization of PI "9K" Organization of key person
Name	AN	1	***40***	NO	NO	
DUNS	AN	2	80	NO	NO	
Division	AN	1	30	***NO***	NO	
Profile_Id	AN	1	30	NO	NO	
EIN	AN	1	30	NO	NO	
Department	AN	1	30	***NO***	NO	

3.15 OTHER_SUPPORT Entity Data Elements

Use the OTHER_SUPPORT entity to identify active other support projects. Identify other support only for key personnel on the proposed budget period.

Table 3-13. Supported OTHER_SUPPORT Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Type	ID	2	2	NO	YES	"37" Active
Annual_Cost	DOLLAR	1	***10***	NO	YES	
Award_Number	AN	1	30	NO	YES	
Major_Goals	AN	1	***700***	NO	NO	
Overlap *Summarize overlap for all OS projects on a per individual basis.*	AN	1	***700***	NO	NO	
Title	AN	1	***60***	NO	NO	

3.16 OTHER_SUPPORT_PERIOD Entity Data Elements

Use the OTHER_SUPPORT_PERIOD entity to identify the dates and percent effort associated with an active other support project.

Table 3-14. Supported OTHER_SUPPORT_PERIOD Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Start_Date	DATE	8	8	NO	YES	
End_Date	DATE	8	8	NO	YES	
Level_Effort_Percentage *Calculate the average over the Other Support Period*	NUM	1	10	NO	NO	

3.17 PARAGRAPH Entity Data Elements

Use the PARAGRAPH entity to specify freeform text. The one exception is identifying that an invention was conceived under this project. Cite I.6 in the *type* attribute to indicate that an invention was conceived, then cite the word "Reported" in the *text* attribute if the invention was previously reported. If the invention was not previously reported, cite the phrase "Not Reported" in the *text* attribute.

Table 3-15. Supported PARAGRAPH Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Type	ID	1	4	NO	YES	"A" Abstract (4M) "C.1" Change in level of effort for key personnel (2K) "D.5" Publication Text (2K) "D.5.1" Medline Accession Number "E.4" Program Income (100 char) "E.7" Indirect Cost Base (4M) "I" Progress Report (4M) "I.5" Unobligated Balances (2K) "I.6" Inventions "I.7" Rebudgeting of Funds (2K)
Title	AN	1	30	NO	NO	
Text	AN	1	N/A	NO	YES	

3.18 PROJECT Entity Data Elements

Use the PROJECT entity to identify the start and end dates for a project. The PROJECT entity also acts as the parent for all other project-related entities.

Table 3-16. Supported PROJECT Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Type	ID	1	2	NO	YES	"PC" Project
Start_Date	DATE	8	8	NO	NO	
End_Date	DATE	8	8	NO	NO	
Duration	NUM	1	*2*	NO	NO	

3.19 REPORT Entity Data Elements

Use the REPORT entity to identify the dates for the report period. The REPORT entity is also the parent for the PARAGRAPH entity, which is used to provide the progress report information.

Table 3-17. Supported REPORT Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Start_Date	DATE	8	8	NO	NO	
End_Date	DATE	8	8	NO	NO	

3.20 YES_NO_CONDITION Entity Data Elements

Use the YES_NO_CONDITION entity to answer questions relating to assurances and certifications and to changes in the use of human/animal subjects. Only provide when the response to codes 5E, 6G, H4, I7, or I8 is *Yes*, or when the response to codes H0, H5, H6, H8, or H9 is *No*.

Table 3-18. Supported YES_NO_CONDITION Data Elements

Data Element Name	Data Type	Min Len	Max Len	Dupl	Req	Code List
Type	ID	2	2	NO	YES	"5E" Change in Human Subjects (2K) "6G" Change in Animal Subjects (2K) "H0" Certifies Compliance With Federal Lobbying Regulations "H4" Lobbying Activities Have Been Conducted Regarding the Proposal "H5" Certifies Compliance With the Drug-Free Workplace Act "H6" Certifies Compliance With the Code of Federal Regulations Regarding Research Misconduct "H8" Certifies Compliance With Federal Discrimination Regulations "H9" Certifies Compliance With the Code of Federal Regulations Regarding Responsibility of Applicants for Promoting Objectivity in Research "I7" Delinquent Federal Debts "I8" Federal Debarment and Suspension List
Response	ID	1	1	NO	YES	"Y" Yes "N" No
Condition_Date	DATE	8	8	NO	NO	
Description	AN	1	264	NO	NO	

4 HTML-Formatted Data Stream Syntax

The syntax for HTML-streams is based on the data stream produced when a user *submits* (i.e., selects the *submit* button on) a Web form. Upon submission of a Web form, a data stream is generated such that the information input by the user is represented by a sequence of *key/value* pairs. The *key* portion is the variable name assigned by the Web form creator. The *value* portion is the information entered by the user submitting the form.

An example helps clarify this concept. Assume that a Web form contains a text box for entering a person's last name, that the form creator assigns the variable name *Name_Last* to the text box, and that the user enters the name *Ptolemy* in the text box. When the user submits the form, the resulting data stream for that text box is:

Name_Last=Ptolemy

As seen from this trivial example, the HTML-formatted data stream syntax has two components:

- a set of permitted variable names (these are the data element names defined in the SNAP data dictionary), and
- a set of rules for combining these data elements (i.e., a grammar)

4.1 Data Element Rules

There are certain rules and restrictions when specifying the *value* portion of data elements. The following rules and restrictions are carried over from the X12 194 transaction set.

1. When specifying numerical data elements, special formatting characters must not be included. For example, telephone numbers must not contain parentheses or dashes, and social security numbers, DUNS numbers, grant numbers, and 9-digit zip codes must not contain dashes.
2. Monetary amounts must not contain the dollar sign.

Other rules are specific to HTML-streams. These rules and restrictions are listed below.

1. Entities and data element names are not case sensitive.
2. Spaces are specified with the character "+". For example, the name "Tycho Brahe" is represented as "Tycho+Brahe".
3. There are certain *special characters* in HTML-streams. When representing these special characters as text in the data element *value* portion, they must be specified as a

multi-character sequence. The following table lists each special character and its associated multi-character sequence. Note that when determining the length of a data element value, each special character is counted as one character, despite its multi-character representation.

Table 4-1. Specifying Special Characters

Description	Character	Specification in Data Stream
ampersand	&	&
less-than	<	<
greater-than	>	>
Quotation mark	“	"
plus	+	+
semi-colon	;	;
tab		
new line	

4.2 Grammar Rules

Section 4.1 provides the information necessary to specify any single data element. This section provides the rules for specifying a sequence of data elements as an HTML-stream.

4.2.1 Basic Rules

There are 5 basic rules for combining data elements into an HTML-stream.

1. The HTML-stream is a continuous sequence of data elements; no white space is permitted between data elements.
2. All data elements must appear within an entity.
3. Entities can appear in any order (within the constraints of the relevant hierarchy).
4. Data elements comprising an entity can appear in any order.
5. The delimiter between data elements is the character “&”.

4.2.2 Specifying Entities With Multiple Values

Many entities permit duplicates. This simply means that there can be multiple instances of an entity. For example, one instance of the ORGANIZATION entity can be used to specify one performance site on an application. To specify a second performance site on the organization, a second instance of the entity is used.

To better understand how entities that allow duplicates are handled within an HTML-stream, the entities should be viewed as tables in a relational database. The set of data elements that comprise an entity is represented as a row in that table. To delineate between tables (i.e., entities) and rows within a table (i.e., instances of an entity) the *Ordered/Boundary Method* [4] is employed.

The Ordered / Boundary Method uses the tags BEGIN and END to delineate tables, and the tag NEXT to delineate rows within a table. For example, given the following data elements in the INDIVIDUAL table:

Table 4-2. Example Table for BEGIN, NEXT, and END Tags

Type	Last Name	First Name
1B	Bruno	Giordano
AD	Brahe	Tycho

the resulting HTML-stream is:

```
BEGIN=INDIVIDUAL
        &Type=1B
        &Last_Name=Bruno
        &First_Name=Giordano
&NEXT= INDIVIDUAL
        &Type=AD
        &Last_Name=Brahe
        &First_Name=Tycho
&END= INDIVIDUAL
```

Note that the HTML-stream would be one continuous stream. The above formatting is provided only for readability.

4.2.3 Specifying Data Elements With Multiple Values

Some data elements are permitted multiple values. For example, an individual's mailing address can have multiple street address lines. To identify multiples values associated with a data element, simply repeat the data element for each value. This concept is reflected in the following table and data stream, which provides CONTACT_INFORMATION for the user Tycho Brahe from the previous example.

Table 4-3. Example Table for Multiple Data Element Values

Street Address1	Street Address2	City	State
1234 Main St	Suite 501	Bethesda	MD

The resulting HTML-stream becomes:

```
BEGIN=INDIVIDUAL
        &Type=AD
        &Last_Name=Brahe
        &First_Name=Tycho
        &BEGIN= CONTACT_INFORMATION
                &Street_Address=1234+Main+St
                &Street_Address=Suite+501
                &City=Bethesda
                &State=MD
        &END= CONTACT_INFORMATION
&END= INDIVIDUAL
```

Again, the formatting is provided only for readability.

Appendix A: Sample PHS 2590 Application and HTML-stream

This appendix contains a sample PHS 2590 application (pages A, C, E, F, and G). The sample application is followed by the corresponding HTML-stream.

The sample PHS 2590 application contains ficticious information. Although the application data is *realistic* in format, it should not be used as guidance for completing a 2590 application. The purpose of the sample application is to illustrate the relationship between 2590 form data elements and HTML-stream data elements.

Form Approved Through 2/28/01
OMB No. 0925-0001

Department of Health and Human Services
Public Health Services

Application
For Continuation Grant

Review Group	Type	Activity	Grant Number
			5R01CA00000002

Total Project Period
From: 04/01/96 Through: 03/31/99

Requested Budget Period:
From: 04/01/97 Through: 03/31/98

1. TITLE OF PROJECT
Atherosclerosis Prevention Study

2. PRINCIPAL INVESTIGATOR OR PROGRAM DIRECTOR (Name and address, street, city, state, zip code)

Galileo N. Galilei
University of Bethesda
Atherosclerosis Research Unit
461 Ocean Blvd., CSC-32
Bethesda, MD 20892

2b. E-MAIL ADDRESS
ggalilei@ub.edu

2c. DEPARTMENT, SERVICE, LABORATORY, OR EQUIVALENT
MDK

2d. MAJOR SUBDIVISION
01

3. ORGANIZATIONAL CODE

4. APPLICANT ORGANIZATION (Name and address, street, city, state, zip code)

DUNS Number: 112233445
IPF Code: 1234567

5. ENTITY IDENTIFICATION NUMBER
0-13-3454321-A1

6. TITLE AND ADDRESS OF ADMINISTRATIVE OFFICIAL

Deputy Director

Dept. of Contracts and Grants
1313 Mockingbird Lane, DEI-5555
Bethesda, MD 20892

E-MAIL ADDRESS:
tbrahe@munster.ub.edu

7. HUMAN SUBJECTS
☐ No
☐ Yes

7a. If "Yes," Exemption no.
Or
IRB approval date 05/15/96
☐ Full IRB **or**
☐ Expedited Review

7b. Assurance of compliance no.
M123456XB

8. VERTEBRATE ANIMALS
☐ No
☐ Yes

8a. If "Yes," IACUC approval Date
02/01/96

8b. Animal welfare assurance no.
A9999-01

9. COSTS REQUESTED FOR NEXT BUDGET PERIOD
9a. DIRECT $
9b. TOTAL $

10. INVENTIONS AND PATENTS
☐ No ☐ Yes If "Yes," ☐ Previously reported ☐ Not previously reported

11. PERFORMANCE SITE(S) *(Organizations and addresses)*

Pharmacology Research Laboratory
Bethesda, MD 20892

	AREA CODE	TELEPHONE NO. AND FAX NO.
12a. PRINCIPAL INVESTIGATOR OR PROGRAM DIRECTOR *(Item 2a)* Galileo Galilei	(301) (301)	555 1478 555 2685
12b. NAME OF ADMINISTRATIVE OFFICIAL *(Item 6)* Tycho H. Brahe	(301) (301)	555-2396 555-2835
12c. NAME AND TITLE OF OFFICIAL SIGNING FOR APPLICATION ORGANIZATION *(Item 15)* Giordano Bruno Jr Provost & Senior VP for Academic Affairs	(301) (301)	555-2395 555-2835

E-MAIL ADDRESS

13. *Do not use this space.*

14. PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR ASSURANCE: I certify that the statements herein are true, complete and accurate to the best of my knowledge. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. I agree to accept responsibility for the scientific conduct of the project and to provide the required progress reports if a grant is awarded as a result of this application.	SIGNATURE OF PI/PD NAMED IN 2a. *(In ink. "Per" signature not acceptable.)*	DATE
15. APPLICATION ORGANIZATION CERTIFICATION AND ACCEPTANCE: I certify that the statements herein are true, complete and accurate to the best of my knowledge, and accept the obligation to comply with Public Health Services terms and conditions if a grant is awarded as a result of this application. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties.	SIGNATURE OF OFFICIAL NAMED IN 12c. *(In ink. "Per" signature not acceptable.)*	DATE 06/02/96

PROGRESS REPORT SUMMARY	GRANT NUMBER 5R01CA00000002	
PRINCIPAL INVESTIGATOR OR PROGRAM DIRECTOR Galileo Galilei	PERIOD COVERED BY THIS REPORT FROM 04/01/96	THROUGH 03/31/97
APPLICANT ORGANIZATION DUNS Number: 112233445		

TITLE OF PROJECT *(Repeat title shown in Item 1 on first page)*
Atherosclerosis Prevention Study

a. Human Subjects *(Complete Item 7 on the Face Page)*
Use of Human Subjects ☐ Change ☐ No Change Since Previous Submission

b. Vertebrate Animals *(Complete Item 8 on Face Page)*
Use of Vertebrate Animals ☐ Change ☐ No Change Since Previous Submission

(SEE INSTRUCTIONS)

This is where the progress report goes.

Significant rebudgeting of funds:
This is where the explanation for significant rebudgeting of funds goes.

Change in the level of effort of key personnel:
For the next budget period, the level of effort for Copernicus increases to 9 months at 50% and 2 months at 100%, Newton will discontinue working on the project, and will be replaced by John A. Bashear with a level of effort of 50%.

Estimated unobligated balance:
This is where the explanation for unobligated balance goes.

Publications:

Copernicus, Nicholaus; Brahe, Tycho; Galilei, Galileo, N.; “Computer assisted identification and classification of infectious and parasitic diseases.” Nucleic Acids Research. 38 (1996) 3696-3703.

Sitterly, Charlotte, E.; Galilei, Galileo, N.; “In vitro molecular techniques to study gene structure regulation in bacteria. Microbiol. 101 (Oct 1996) 989-996.

GENDER AND MINORITY INCLUSION
Provide the number of subjects enrolled in the study ***to date*** (cumulatively since the Most recent competitive award) according to the following categories. (See Page 8 for definitions.) If there is more than one study, provide a separate table for each study. In addition, report on the subpopulations which are included in the study.

STUDY TITLE
This is where the Gender and Minority Inclusion Study Title goes.

	American Indian or Alaskan Native	Asian or Pacific Islander	Black, not of Hispanic Origin	Hispanic	White, not of Hispanic Origin	Other or Unknown	TOTAL
Female	50	50	50	50	50	100	350
Male	35	35	35	35	35	70	245
Unknown							
TOTAL	85	85	85	85	85	170	595

CHECKLIST

GRANT NUMBER
5R01CA00000002

1. ASSURANCES/CERTIFICATIONS *(See Instructions, Page 9)*

The following assurances/certifications are made and verified by the signature of the OFFICIAL SIGNING FOR APPLICATION ORGANIZATION on the FACE PAGE of the application. If unable to certify compliance where applicable, provide and explanation and place it after this page.

•Human Subjects; •Vertebrate Animals; •Debarment and Suspension; •Lobbying; •Delinquent Federal Debt; •Research Misconduct; •Civil Rights (Form HHS 441 or HHS 690); •Handicapped Individuals (Form HHS 641 or HHS 690); •Sex Discrimination (Form HHS 639-A or HHS 690); •Age Discrimination (Form HHS 680 or HHS 690); •Financial Conflict of Interest.

2. PROGRAM INCOME *(See Instructions, Page 10.)*

All applications must indicate whether program income is anticipated during the period(s) for which grant support is request. If program income is anticipated, use the format below to reflect the amount and source(s).

Budget Period	Anticipated Amount	Source(s)
04/01/97-03/31/98	$50,000	Howard Hughes Medical Center

3. INDIRECT COSTS

Indicate the applicant organization's most recent indirect cost rate established with the appropriate DHHS Regional Office, or, in the case of forprofit organizations, the rate established with the appropriate PHS Agency Cost Advisory Office. Indirect costs will ***not*** be paid on foreign grants, construction grants, grants to Federal organizations, grants to individuals, and conference grants. Follow any additional instructions provided for Research Career Awards, Institutional National Research Service Awards, and specialized grant applications.

☐ DHHS Agreement dated: March 15, 1996 ☐ No Indirect Costs Requested.

☐ No DHHS Agreement, but rate established with _____ Date _____

CALCULATION*

Entire proposed project period:

Amount of base $ _____ x Rate applied _____ % = Indirect costs $ _____

Add to total direct costs from form page 2 and enter new total on FACE PAGE, Item 9b.

*Check appropriate box(es):

☐ Salary and wages base ☐ Modified total direct cost base ☐ Other base *(Explain below)*

☐ Off-site, other special rate, or more than one rate involved *(Explain below)*

Explanation *(Attach separate sheet, if necessary.):*

Other Support

GALILEI, G.

ACTIVE

DCB 950000 (Galilei)	12/01/98-11/30/00	20%
National Science Foundation	$82,163	
Liposome Membrane Composition and Function		

The major goals of this project are to define biochemical properties of liposome membrane components and maximize liposome uptake into cells.

OVERLAP

There is scientific overlap between aim 2 of NSF DCB 950000 and aim 4 of the application under consideration. If both are funded, the budgets will be adjusted appropriately in conjunction with agency staff.

COPERNICUS, N.

NONE

BASHEAR, J.

ACTIVE

5 RO1 CA 00000-07 (Bashear)	04/01/94-03/31/99	30% Academic
NIH/NCI	$104,428	100% Summer
Gene Therapy for Small Cell Lung Carcinoma		

The major goals of this project are to use viral strategies to express the normal p53 gene in human SCLC cell lines and to study the effect of growth and invasiness of the lines.

OVERLAP

Potential commitment overlap for Dr. Bashear between 5 RO1 CA 00000-07 and the application under consideration. If the application under consideration is funded with Dr. Bashear committed at 50% effort, Dr. Bashear will request approval to reduce his effort on the NCI grant.

PERSONNEL REPORT	GRANT NUMBER 5R01CA00000002

All Personnel for the Current Budget Period

Name	Degree(s)	SSN	Role on Project *(e.g. PI, Res. Assoc.)*	Date of Birth *(MM/DD/YY)*	Annual % Effort
Galilei, Galileo		**123456789**	**PI**	**03/03/38**	**40**
Copernicus, Nicholas			**Research Assistant**		**32**
Newton, Isaac			**Staff Scientist**		**25**

PHS 2590 (REV. 4/98) (Form Page 7) Page _____ G

Below is the HTML-stream that corresponds to the sample form. Although an HTML-stream is a continuous sequence of characters, new lines and tabs have been inserted for readability.

```
BEGIN=APPLICATION
    &Purpose=00
    &Type=6N
    &Applicant_Id=UniversityGrantID01
    &Submission_Date=19960602
    &Title=Atherosclerosis+Prevention+Study
    &Award_Id=5R01CA00000002
    &BEGIN=ORGANIZATION
        &Type=SE
        &DUNS=112233445
        &Profile_Id=1234567
        &Name=University+of+Bethesda
        &EIN=0123454321A1
        &BEGIN=ICR
            &Agree_Date=19960315
        &END=ICR
    &NEXT=ORGANIZATION
        &Type=BY
        &DUNS=927645168
    &END=ORGANIZATION
    &BEGIN=INDIVIDUAL
        &Type=AD
        &Last_Name=Brahe
        &First_Name=Tycho
        &Middle_Name=H.
        &Title=Deputy+Director
        &BEGIN=CONTACT_INFORMATION
            &Street_Address=Department+of+Contracts+and+Grants
            &Street_Address=1313+Mockingbird+Lane,+DEI-5555
            &City=Bethesda
            &State=MD
            &Zip_Code=20892
            &Email_Address=tbrahe@munster.ub.edu
            &Telephone_Number=3015552396
            &Fax_Number=3015552835
        &END=CONTACT_INFORMATION
    &NEXT=INDIVIDUAL
        &Type=1B
        &Last_Name=Bruno
        &First_Name=Giordano
        &Suffix=Jr.
        &Title=Provost+&amp;amp;+Senor+VP+for+Academic+Affairs
        &BEGIN=CONTACT_INFORMATION
            &Telephone_Number=3015552395
            &Fax_Number=3015552835
        &END=CONTACT_INFORMATION
```

```
&END=INDIVIDUAL
&BEGIN=PROJECT
    &Type=PC
    &Start_Date=19960401
    &End_Date=19990331
    &BEGIN=REPORT
        &Start_Date=19960401
        &End_Date=19970331
        &BEGIN=PARAGRAPH
            &Type=I
            &Text= This+is+the+progress+report+goes.
        &NEXT=PARAGRAPH
            &Type=D.5
            &Text=Nicholaus+Copernicus,
            +Tycho+Brahe,+Galileo+N.+Galileo,
            Computer+assisted+identification+and+
            classification+of+infectious+and+parasitic
            +diseases.+ Nucleic+Acids+Research.+
            38+(1996)+3696-3703.
        &NEXT=PARAGRAPH
            &Type=D.5
            &Text=Charlette+E.+Sitterly,+
            Galileo+N.+Galileo,+In+vitro+molecular+
            techniques+to+study+gene+structure+
            regulation+in+bacteria.+Microbiol.+
            101+(Oct+1996)+989-996.
        &NEXT=PARAGRAPH
            &Type=I.7
            &Text=This+is+where+the+explanation+for
                +significant+rebudgeting+of+funds+goes.
        &NEXT=PARAGRAPH
            &Type=I.5
            &Text=This+is+where+the+explanation+for
                +unobligated+balance+goes.
        &NEXT=PARAGRAPH
            &Type=C.1
            &Text=For+the+next+budget+period,+the+level
                +of+effort+for+Copernicus+increases+from
                +32%+to+9+months+at+50%+and+2+months+at+
                100%,+Newton+will+discontinue+working+on
                +the+project,+and+will+be+replaced+by+
                John+A.+Bashear+with+a+level+of+effort
                +of+50%.
        &END=PARAGRAPH
    &END=REPORT
    &BEGIN=ORGANIZATION
        &Type=61
        &Name= Pharmacology+Research+Laboratory
        &BEGIN=CONTACT_INFORMATION
            &City=Bethesda
```

```
        &State=MD
    &END=CONTACT_INFORMATION
&END=ORGANIZATION
&BEGIN=PARAGRAPH
    &Type=I.6
    &Text=REPORTED
&NEXT=PARAGRAPH
    &Type=E.4
    &Text=For+budget+period+04/01/97-
    03/31/98,+receive+an+anticipated+
    amount+of+$50,000+from+Howard+Hughes
    +Medical+Center
&END=PARAGRAPH
&BEGIN=INDIVIDUAL
    &Type=9P
    &Last_Name=Galilei
    &First_Name=Galileo
    &Middle_Name=N.
    &SSN=123456789
    &Birth_Date=19380303
    &BEGIN=CONTACT_INFORMATION
        &Street_Address=Atherosclerosis+Research+Unit
        &Street_Address=461+Ocean+Blvd.,+CSC-32
        &City=Bethesda
        &State=MD
        &Zip_Code=20892
        &Email_Address=ggalilei@ub.edu
        &Telephone_Number=3015551478
        &Fax_Number=3015552685
    &END=CONTACT_INFORMATION
    &BEGIN=ORGANIZATION
        &Type=9P
        &DUNS=112233445
        &Department=MDK
        &Division=01
    &END=ORGANIZATION
    &BEGIN=OTHER_SUPPORT
        &Type=37
        &Title=Liposome+Membrane+Composition+
            and+Function
        &Annual_Cost=82163
        &Award_Number=DCB950000
        &Major_Goals= The+major+goals+of+this+
            project+are+to+define+biochemical+
            properties+of+liposome+membrane+
            components+and+maximize+liposome+
            uptake+into+cells.
        &Overlap=There+is+scientific+overlap
            +between+aim+2+of+NSF+DCB+950000
            +and+aim+4+of+the+application+
```

```
            under+consideration.++If+both+are+
            funded,+the+budgets+will+be+adjusted+
            appropriately+in+conjunction+with+
            agency+staff.
        &BEGIN=OTHER_SUPPORT_PERIOD
            &Start_Date=19981201
            &End_Date=20001130
            &Level_Effort_Percentage=20
        &END=OTHER_SUPPORT_PERIOD
        &BEGIN=ORGANIZATION
            &Type=92
            &Name=National+Science+Foundation
        &END=ORGANIZATION
        &BEGIN=INDIVIDUAL
            &Type=9P
            &Last_Name=Galilei
            &First_Name=Galileo
        &END=INDIVIDUAL
    &END=OTHER_SUPPORT
&NEXT=INDIVIDUAL
    &Type=9K
    &Last_Name=Copernicus
    &First_Name=Nicholas
    &BEGIN=ORGANIZATION
        &Type=9K
        &DUNS=112233445
    &END=ORGANIZATION
&NEXT=INDIVIDUAL
    &Type=9K
    &Last_Name=Bashear
    &First_Name=John
    &Middle_Name=A.
    &Name_Prefix=Dr.
    &BEGIN=ORGANIZATION
        &Type=9K
        &DUNS=112233445
    &END=ORGANIZATION
    &BEGIN=OTHER_SUPPORT
        &Type=37
        &Title=Gene+Therapy+for+Small+Cell
            +Lung+Carcinoma
        &Annual_Cost=104428
        &Award_Number=5R01CA0000007
        &Major_Goals= The+major+goals+of+this+
            project+are+to+use+viral+strategies
            +to+express+the+normal+p53+gene+in+
            human+SCLC+cell+lines+and+to+study+
            the+effect+of+growth+and+invasiness
            +of+the+lines.
        &Overlap=Potential+commitment+overlap+
```

```
            for+Dr.+Bashear+between+5+R01+CA+
            00000-07+and+the+application+
            under+consideration.++If+the+
            application+under+consideration+is+
            funded+with+Dr.+Bashear+committed+at
            +50%+effort,+Dr.+Bashear+will+request
            +approval+to+reduce+his+effort+on+the+
            NCI+grant.
        &BEGIN=OTHER_SUPPORT_PERIOD
            &Start_Date=19940401
            &End_Date=19990331
            &Level_Effort_Percentage=48
        &END=OTHER_SUPPORT_PERIOD
        &BEGIN=ORGANIZATION
            &Type=92
            &Name=NIH/NCI
        &END=ORGANIZATION
        &BEGIN=INDIVIDUAL
            &Type=9P
            &Last_Name=Bashear
            &First_Name=John
        &END=INDIVIDUAL
    &END=OTHER_SUPPORT
&END=INDIVIDUAL
&BEGIN=BUDGET
    &BEGIN=BUDGET_PERIOD
        &Period_Id=T
        &Start_Date=19970401
        &Length=12
        &BEGIN=BUDGET_LABOR
            &Project_Role=Principal+Investigator
            &Level_Effort_Percentage=60
            &Level_Effort_Months=8
            &Previous_Level_Effort_Percentage=40
            &BEGIN=INDIVIDUAL
                &Type=9P
                &Last_Name=Galilei
                &First_Name=Galileo
                &Middle_Name=N.
            &END=INDIVIDUAL
        &NEXT=BUDGET_LABOR
            &Project_Role=Research+Assistant
            &Level_Effort_Percentage=54
            &Level_Effort_Months=11
            &Previous_Level_Effort_Percentage=32
            &BEGIN=INDIVIDUAL
                &Type=9K
                &Last_Name=Copernicus
                &First_Name=Nicholas
            &END=INDIVIDUAL
```

```
        &NEXT=BUDGET_LABOR
            &Previous_Level_Effort_Percentage=25
            &BEGIN=INDIVIDUAL
                &Type=9K
                &Last_Name=Newton
                &First_Name=Isaac
            &END=INDIVIDUAL
        &NEXT=BUDGET_LABOR
            &Project_Role=Staff+Scientist
            &Level_Effort_Percentage=50
            &Level_Effort_Months=12
            &Previous_Level_Effort_Percentage=0
            &BEGIN=INDIVIDUAL
                &Type=9K
                &Last_Name=Bashear
                &First_Name=John
                &Middle_Name=A.
            &END=INDIVIDUAL
        &END=BUDGET_LABOR
    &END=BUDGET_PERIOD
&END=BUDGET
&BEGIN=YES_NO_CONDITION
    &Type=6G
    &Response=Y
&END=YES_NO_CONDITION
&BEGIN=HUMAN_SUBJECT
    &BEGIN=IRB
        &Approval_Date=19960515
        &Review_Type=FULL
        &Assurance_Number=M123456XB
    &END=IRB
    &BEGIN=MATRIX
        &Title= This+is+where+the+Gender+and
            +Minority+Inclusion+Study+Title+goes.
        &Start_Cell=A1
        &End_Cell=F2
        &Data=50
        &Data=50
        &Data=50
        &Data=50
        &Data=50
        &Data=100
        &Data=35
        &Data=35
        &Data=35
        &Data=35
        &Data=35
        &Data=70
    &END=MATRIX
&END=HUMAN_SUBJECT
```

```
        &BEGIN=ANIMAL_SUBJECT
            &BEGIN=IACUC
                &Approval_Date=19960201
                &Assurance_Number=A9999-01
            &END=IACUC
        &END=ANIMAL_SUBJECT
    &END=PROJECT
&END=APPLICATION
```